News & Views

A Newsletter Dedicated To Information Technology In The State Of Montana

ISD — Information Services Division

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Emerging Technologies Spotlight

An Overview of Multimedia...

Multimedia Changing the Way We Communicate

What is multimedia?

Multimedia is the act of communicating a message using more than one media. For example, you log on to your PC in the morning and it provides you with several descriptive messages (in a textual form) about the initialization process, all the while beeping at you (audio form). Thus we have text appearing on the screen while an audio signal is sent through the speaker on the PC—there you have it... multimedia. Robert May, President of Ikonic Interactive Multimedia says, "We define multimedia as anything that requires more than two trips to the car".

Since our basic definition of multimedia includes the use of more than one media, we could then expand our definition by combining the common elements found in a multimedia application such as text, pictures, movies, graphics, animation, and sound.

A more robust, and albeit practical, example of multimedia would be if an out-of-state traveler walked up to a Visitor Information Center kiosk and examined descriptions of activities available in the state of Montana. The traveler selects a white water adventure in Glacier Park. A movie is activated which shows several people in a raft shooting down a wild river with the booming sounds of rushing water enhancing the visual experience. The traveler, overwhelmed with excitement and eager anticipation, requests a print-out of the white water adventure which provides the name, address, and phone number of the rafting company located by the Park.

Thus combining the description of the

What's Inside

Calendar of Events

January 1:
- New Year's Day Holiday.

January 3:
- ITMG meeting, 8:30-10:30, Metcalf 111.

January 5:
- MOPUG meeting, 1:00-4:00, Mitchell 13A & 13B.

January 9:
- ITAC meeting, 8:30-11:30, Metcalf 111.

January 15:
- Martin Luther King, Jr.'s Birthday Holiday.
- Governor's Blue Ribbon Executive Committee meeting, 10:00-2:00, Mitchell Room 13A & 13B.

January 16:
- SEC meeting, 9:00-11:00, DPHHS Auditorium (METNET).

January 18:
- MIS Vendors Information Session, 1:30-4:00, Metcalf 111.

January 19:
- Governor's Blue Ribbon Task Force meeting, 10:00-3:00, Capitol 108.
- GIS Seminar, 3:00-5:00, Montana State Library Conference Room 208, *(see sidebar this page for more information).*

February 2:
- MOPUG meeting, 1:00-4:00, Mitchell 13A & 13B.

February 7:
- ITMG meeting, 8:30-10:30, Metcalf 111.

February 16:
- Governor's Blue Ribbon Task Force meeting, 10:00-3:00, place to be announced.
- GIS Seminar, 12:00-1:00 Brown Bagger, Montana State Library Conference Room 208, *(see sidebar this page for more information).*

February 19:
- Presidents Day Holiday.

February 20:
- SEC meeting, 9:30-11:30, DPHHS Auditorium (METNET).

adventure, the movie, and the audio content presented on the computer screen constituted the multimedia experience. "The breakthrough of multimedia computing is that for the first time information can be presented in human terms instead of requiring the user to adapt to the delivery of information in computer terms," says Glenn Ochsenreiter, from opening remarks at the Multimedia PC Introduction, Museum of Natural History, New York, NY, October 12, 1991.

Daily we read articles in trade journals, and other publications, on the advantages and benefits which can be realized through the use of multimedia applications. Multimedia is a technology that is capable of producing a fundamental change in the way we communicate. It provides the benefit of holding one's attention while generating interest and improving retention of the message, thus eliminating the need for traditional text-only computer interfaces.

Early multimedia applications were employed to create flashy business presentations or were used on some inter-galactic cyberspace game. Now multimedia is on the mainstream doorstep poised and ready to meet legitimate communication needs for more effective training, business presentations, education, dynamic easier-to-use applications, and of course powerful entertainment.

A few years ago, multimedia was only considered extraordinary, or perhaps a luxury. Although the word 'multimedia' is still used today, it is really just another form of computing. Yet this computing utilizes the full potential of the PC, in the way it was intended to be used. The term multimedia will more than likely be dated in a few years. Soon it will not be possible to purchase a computer that *isn't* ready to produce sound and video, so one could access the most feature-rich applications available.

Where do we find multimedia?

Business

In business multimedia is appearing in presentations, training, marketing, advertising, product demonstrations, databases, catalogs, and network communication (voice mail, video conferencing, and of course the Internet). Companies are also using multimedia for a wide variety of services such as sales support and customer service. Consequently, as companies begin to realize the power

GIS Seminars

Randy Matchett, Charles M Russell National Wildlife Refuge, *Prairie dogs, Blackfooted Ferrets & GPS/GIS*. GPS and GIS mapping technology were applied to management of prairie dogs, and reintroduction and monitoring of Blackfooted Ferrets, an endangered species. Field work took place in 1994 and 1995. Field application and practical results will be presented and discussed. The seminar will be held on January 19 in the Montana State Library Conference Room 208 from 3:00-5:00. For more information, contact Kris Larson (444-5691).

Roly Redmond, University of Montana, School of Forestry, *Mapping Existing Vegetation and Land Cover Across Large Geographic Areas Using Remote Sensing and a GIS*. This presentation will describe general methods and results from the GAP Analysis project in western Montana. Roly will also discuss how the findings and techniques can be applied to other projects. Please note that this presentation is scheduled for a NOON Brown Bagger. The seminar will be held on February 16 in the Montana State Library Conference Room 208 from 12:00-1:00. For more information, contact Kris Larson (444-5691).

of multimedia, and the cost of multimedia equipment decreases, more applications will be developed which will allow businesses to run more smoothly, efficiently, and creatively.

Today, business training is expensive (especially if one must travel out of state), it removes the employee from the work environment, and provides training information that could radically change within the year. Instructor-led training creates logistical problems and is also expensive.

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Consider the effect multimedia would have on business training; no travel required, the employee remains in their work environment, and a CD-ROM is provided containing the course material with product updates as required.

"It (multimedia) gives us a vehicle that lets us tell our story even though we're not there," says Brent Gorman, director of international marketing at International Business Exchange Network, Canada. "Having the ability of sending a demonstration diskette halfway around the world and somebody can take a half hour and really go through it—that lets us tell our story much better than a brochure that may or may not capture their attention for much more than a couple of minutes... It gives us a big company look."

The days of flat dull, one-dimensional overhead acetates and boring three-ring binders are gone. To communicate in the business world today tools must bring all facets of multimedia to the fingertips of the employee, any time and any place. Sound, video, and graphically-creative design are all expected to be a part of computer applications, sales tools, product demonstrations, marketing,

catalogues and promotional materials.

Education
In the education arena, schools are perhaps the most needy destination of multimedia. Multimedia will provide the most radical changes in the teaching process. This will become apparent as active students discover they can go beyond the limits of traditional teaching methods to fulfill their craving for knowledge.

Multimedia can incorporate such a broad range of information that it can be used to teach 3–8 year olds how to read while furnishing teaching tools developed by Yale University School of Medicine that provides physicians with over 100 case presentations.

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Public Places
Multimedia applications are found in kiosks located in hotels, train stations, shopping malls, museums, and grocery stores. As illustrated in our white water adventure at Glacier Park, multimedia reduces the demand for traditional information

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booths and the need for personnel at many locations. Kiosks provide the added bonus of supplying information seven days a week, twenty-four hours a day.

The opportunities are endless for the distribution of information and of product ordering on a kiosk. Electronic commerce would enhance retail applications through the use of a kiosk which could double as a "point-of-sale" device (cash register). Just imagine... rude clerks or long lines could become a thing of the past.

Home
In the home, multimedia is typically presented with the use of a CD-ROM. One could browse an adventure travel disk, let the student of the house write a school paper using the electronic dictionary, or play any number of games available in the market today.

Internet
The Internet is quickly becoming the next vista for multimedia. Contract negotiations exist between multimedia authoring companies and firms that develop Internet browsers so the integration of multimedia can occur in a more seamless environment.

Today you can "hear" the Internet talk to you (via an audio browser) which provides speeches, presentations, or even a multicast radio station broadcast merely by clicking on a hypertext link. You will find a new generation of publications on the Internet that incorporate multimedia at their web site. Some companies also provide video archives, which contain clips that run the gamut from NASA to Hollywood.

Virtual Reality (VR)
Multimedia is also found in the expanding arena of virtual reality,

where technology and creative invention converge. This is where one wears special helmets and goggles that place you in a "real-life" experience.

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Though we hear about this technology in regard to games we see it take a far more serious approach in multi-million dollar simulators used by pilots, merchant marine training, and even for dry runs on the space shuttle before attempting the real thing.

VR is an extension of multimedia—it uses the basic multimedia elements of imagery, sound, and animation. Because it requires instrumented feedback from a wired-up person, VR is perhaps interactive multimedia at its fullest extension.

Multimedia Presentation Modes

A multimedia project can be presented in one of two ways; in a linear form or interactively. In a linear presentation, users can sit back and watch it just as they do a movie or television, starting at the beginning and running through to an end. An interactive presentation allows an end user (or viewer of a multimedia application) to control what and when the elements are delivered.

Interactive presentations give the user navigational control to wander through the content at will and is a very powerful personal gateway to information. This allows the user to control the process - what they want to view and when they want to view it.

What is needed for a multimedia experience?

The definition of multimedia we presented earlier is a simple one, making it work can be quite complicated. One needs to know how to use multimedia computer tools and the associated technologies to make them work together.

Multimedia requires an intricate combination of hardware and software to unite the various elements necessary to create a multimedia experience. Listed below are the essential hardware, software, and building blocks which are vital to the creation of a multimedia presentation:

Hardware:
- Connections (SCSI and MCI)
- Memory and storage devices (floppy, CD-ROM drives, CD-ROM recorders, etc.)
- Input devices (keyboards, touchscreens, scanners, etc.)
- Output devices (audio, monitors, video, etc.)
- Communication devices (modems, remote application devices, etc.)

Software:
- Basic multimedia tools (sound edit, painting and drawing, animation tools, etc.)
- Basic tools (word processing, databases, spreadsheets, etc.)
- Authoring tools (icon-based, time-based, page-based, etc.)

Building blocks:
- Text (fonts, hypermedia, etc.)
- Sound (MIDI, digital audio, sound in Windows, etc.)
- Images (bitmaps, vector drawings, 3-D drawings, etc.)
- Animation
- Video (compression, formats, standards, etc.)

Multimedia Considerations

The majority of multimedia applications are executed on stand-alone PCs. Multimedia requires massive amounts of electronic storage space on the PC and equally large amounts of memory when stored in an end user's library.

A primary consideration in today's highly distributed computing environment is the network. The contemplation of passing multimedia applications across a network would also require large amounts of bandwidth when distributed over wires or glass fiber on a network. Before this can happen one must know how the transmission of multimedia services will affect bandwidth and transport speeds, both from a LAN and WAN perspective.

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What does the future hold for multimedia?

Current statistics indicate that last year more computers were sold than TV sets. These computers are found mainly in homes and all are primed and ready for multimedia adventures.

The number of multimedia-equipped computers continues to grow at a rapid clip, with ten million units shipped in 1994 compared to 2.5 million in 1993

for an astonishing growth rate of 312 percent according to Dataquest Inc.'s Multimedia Market Trends 1995 report.

Businesses purchase about 10% of all multimedia PC systems. Remember these statistics are for multimedia-equipped computers and do not include those computers that receive a

> *"Whichever multimedia application is applied, Ralph Hubbard, president of Technology Management International Inc., says that its adoption will be slow. When a technology requires people to make behavioral changes, the technology takes longer to become mainstream, he says. 'Eventually, presumably, the effects will be revolutionary. Like the automobile, multimedia and all its communications extensions will change the world. But not this week.'"*

multimedia upgrade package (that is where a standard PC is equipped with a sound card, speakers, CD-ROM, etc.).

A 1995 report by Frost & Sullivan Inc., San Jose, California, predicted that sales of multimedia software and hardware in the United States will hit $9.78 billion in 1995 and $14 billion in 1996. The market is expected to level off in 1999 at around $22 billion.

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Using Multimedia in the Enterprise

Department of Labor and Industry

The Department of Labor and Industry is currently using multimedia to train individuals at Job Service offices across the state. This multimedia project incorporates actual screens from their mainframe applications indicating where user input is required. Each screen is combined with a voice-over describing each field and the appropriate information required.

The multimedia training presentation is created on a high-end PC, compiled and "ported" to VHS tape. The tape is then distributed to Job Service offices throughout the state. The VHS tape can be updated as needed, multiple copies produced, and distributed for a minimal cost.

For the last two years the Department of Labor has been deploying multimedia kiosks at their Job Service offices. A total of 28 multimedia kiosks have been disbursed state-wide.

Montana Travel Development and Promotion Division

Montana Travel Development and Promotion Division is currently coordinating the efforts of 10–12 state and federal agencies to develop a comprehensive database of tourism and recreation information which will be distributed throughout the state on multimedia kiosks. Once developed this multimedia system will also be available for use on standalone machines.

This division is also looking at developing training and promotional videos which can be easily distributed.

Multimedia Lab—Joint Effort

The Department of Labor and Montana Travel Development and Promotion Division have pooled their resources and expertise to implement a comprehensive multimedia lab. This joint effort promises to save the state money while providing one of the finest multimedia labs in the area. The lab will include:

- Several high end graphic computers (both Mac & PC platforms)
- Scanners (both flatbed and high speed slide/negative models)
- Audio recording and digitizing capabilities
- Video capture and digitizing capabilities
- Color inkjet and laser printing capabilities
- SVHS recording equipment
- CD-ROM recording equipment
- Iomega Zip Drives (100 MB cartridges)
- Wide variety of software (Freehand, Illustrator, Premiere, Photostyler, Director, MacroMode, Flying Fonts, PhotoShop, and more)
- And an assortment of miscellaneous items

Both the Department of Labor and Montana Travel Development and Promotion Division will be using the multimedia lab facilities for developing ventures on their Internet World Wide Web site, as well as their individual kiosk projects. ■

ITAC Considers Data Center Privatization

Privatizing, or "outsourcing", of ISD's data center was the focus of a special meeting of ITAC held on December 14.

ISD's data center has been the focus of a comprehensive review to determine the feasibility of privatizing, or "outsourcing", data center operations, including the following activities:

- An internal review of ISD programs resulted in a recommendation to place ISD's data center on the Governor's "long list" of government programs warranting further study as to their potential for privatization
- Real Decisions, a consulting group based in Darien, CT, was hired to perform a comprehensive review of the efficiency of the data center. Real Decisions is a firm that specializes in reviewing information technology firms, comparing the client's performance to other companies which the consulting group maintains in their data base. In this latest evaluation by Real Decisions, ISD's data center was compared to over 160 large data centers throughout the United States and the world. "Peer group" comparisons were also made of the 12 government organizations in their data base and the 16 organizations in ISD's "MIPS" group (organizations with CPU's of similar processing power).

As the result of the completion of the Real Decisions study, ITAC was provided with the following presentation:

- Real Decisions Findings. John Hubbard of Real Decisions summarized the findings of the study, noting that the data center is configured at a cost of $1.2 million less than data centers of similar capacity. He also noted that per transaction prices were higher than many organizations in the Real Decisions data base. He attributed this situation to the relatively high volume of prime shift online processing without a corresponding workload of batch processing that typically is run on non-prime shifts.
- Qualitative Factors in Privatization. ISD presented information that addressed the qualitative, or non-cost, issues associated with privatization.

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- Management Models for Information Technology (IT) Services. ISD presented an overview of the options available for acquiring IT services, including: 1) Status Quo (current ISD internal service fund), 2) Public/Private Partnerships, where-in additional batch workload is secured in order to increase non-prime shift batch workload, 3) Data Center RFP, where ISD would put data center

processing services out to bid, and 4) Quasi-Governmental Corporation, which would be established to provide IT services. Variations of these management models were presented based on the prerequisite selection of one of two basic value systems: 1) Enterprise Service/Quality, or balancing both quantitative and qualitative considerations, and 2) Commodity Pricing, or using cost as the predominant criterion in choosing the means to acquire data center services.

- "Other" Considerations, were also presented by ISD, including: 1) Rate Unbundling of ISD services so that ISD rates are better understood by user agencies and so comparisons can be made to other service providers, 2) Budget Based Billing, or data center billing based on an agency's appropriated budget, and 3) Mid-Tier Enterprise Management, or the potential for ISD to manage agency mid-tier processors within the data center.

After a period of questions and discussion ITAC accepted the following recommendations:

- Reaffirm the historical practice of managing ISD's data center within an "enterprise service/quality" value system
- Endorse the concept of creating public/private partnerships to increase non prime shift batch workload in order to increase data center per transaction price performance
- Evaluate the potential of creating a quasi-governmental IT corporation
- Review the mainframe rate unbundling
- Implement Budget Based Billing
- Review Mid-Tier Enterprise Processing options

For more information on the privatization study contact Tony Herbert (444-4111), Paul Rylander (444-2557), or Jeff Brandt (444-3988) from ISD. ∎

SummitNet Acceptable Use Policy Adopted

The SummitNet Executive Council (SEC) recently approved an "acceptable use policy" for the SummitNet statewide telecommunications network. SEC is a policy-setting group consisting of representatives of state government, local government and the university system. The following information is an excerpt from the new policy.

SummitNet Defined
SummitNet is the state's telecommunications nucleus network or backbone connecting agency, University, K-12, library, and local government networks. · SummitNet provides connectivity to Internet, the world's largest network of individuals, governments, organizations, universities, schools, and companies.

SummitNet's telecommunications users are elected officials, state and local government employees, educators, students, researchers, authorized contractors, and non-profit organizations. Through SummitNet, these authorized users can access a wide range of national and international information. This access empowers them in becoming active producers of information rather than passive consumers.

SummitNet Acceptable Use
SummitNet is to be used for: the conduct of state and local government business and delivery of government services; the support of instruction, learning, training, educational administration, research, and grant procurement; the increased participation of citizen oversight of government affairs; and the promotion of economic development.

SummitNet users may be subject to restrictive or limited use of the network, including the access of Internet, as determined by a supervising authority or administrator.
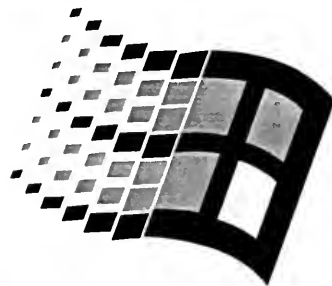
Other Highlights
The policy states that 'SummitNet and the Internet are not to be used for "for-profit" activities or for extensive use for private, recreational, or personal business.' It also states that SummitNet and Internet users are responsible for "honoring acceptable use policies of networks accessed through SummitNet or Internet", for using it for the purposes intended, reporting violations, respecting an individual's right to privacy and to freedom from harassment, and more.

The policy outlines three ties of networks and network management that will be involved in policy enforcement: (1) the SummitNet Tier, (2) the Logical Tier (networks connected directly to SummitNet) and (3) the Satellite Tier (networks connected to logical networks).

The policy also covers Internet Acceptable Use, Public Access to SummitNet and Internet, Remote Dial-In Access to SummitNet and Internet, User Responsibilities, and more on Policy Enforcement and Policy Violation.

Full text of the policy is available on the Value Added Server (GUEST\SUMITNET) and the state BBS (Agency / Administration / Information Services Division / Files / Other Files and Information) or by calling Amanda Christen (444-2700) from Customer Relations. ◪

Windows 95/Windows NT Test Group...

Desktop Operating Systems Being Evaluated

The Desktop/Network Operating System subcommittee of the ITMG has a working group evaluating Windows 95 (Win95) and Windows NT (NT). It is made up of members from multiple agencies and is charged with determining the viability of using Win95 and/or Windows NT workstation as a desktop operating system within the statewide enterprise.

> *"The goal of the group is to deliver a recommendation to ITMG at the February 1996 ITMG meeting. If the recommendation endorses a move to Win95 and/or NT, an implementation plan will be included as part of the recommendation."*

Over the last month ISD has gradually increased the number of users running Win95 in a production mode while other agencies are also gradually picking up the pace of their testing as well. Plans are continuing for two complete units within ISD (End User Systems Support and Systems Development Support) to be running

95 full-time by the end of 1995. Testing of Microsoft's NetWare Directory Services (NDS) has proven solid. Testing of Novell's NDS for 95 has been very successful for some, not successful at all for others. Testing continues on the NDS code. Testing of a dual boot (Win95/Win 3.11) ability has proven functional but a bit cumbersome. Initial testing of running Win95 from the network has been less than stellar, but testing continues. Many different software packages have been tested under Win95 with no showstopping problems. Testing of several Win95 addin products for disk management, user interfacing, and communications has gone very well.

The number of NT testers/users has remained static at three within ISD, with the lack of true NetWare Directory Services and problems with ZIP! being the major hangups.

The goal of the group is to deliver a recommendation to ITMG at the February 1996 ITMG meeting. If the recommendation endorses a move to Win95 and/or NT, an implementation plan will be included as part of the recommendation.

Windows 95 and Windows NT Workstation are not yet accepted as State standard software. Central Stores and all agencies have been asked by the ITMG not to allow purchase or installation of Windows 95 or Windows NT Workstation on State computers. While it is generally agreed that Windows 95 is a capable platform for home use, there are questions to be answered yet about how Win95 or NT workstation will perform within and affect the State's computer enterprise. We will keep you informed of the progress and findings of this group in monthly *ISD News and Views* articles. If you want further information contact Denny Knapp (444-2072, or via ZIP!Mail) of End User Systems Support. ◼

The Information Super Highway

ISPG Discusses Deploying Internet Within the Enterprise

The Internet Services Providers Group (ISPG) met December 6 and December 20. Jim Senkler of the Montana State Library was selected to chair the group. The group discussed its relationship to ITMG and ITAC, communication about problems and outages, and bandwidth and service. The group also voiced its varied

> *"Internet usage within the enterprise is no longer a pilot project! It is not in full production yet, since support, standards, and guidelines need to be determined, and ISPG has not yet fully defined its role, but Internet usage within the enterprise is growing."*

interest in product standards and support, home page design guidelines, education and training, policy, and more.

The status of the migration to the new Internet Service provider (NorthWestNet) was discussed, including problems in routing that appear to be related to the migration. Response times and capacity should improve since the bandwidth increased from 56 KB to T1. Some of the group's highest priorities are bandwidth, reliability, utilization, how to predict and plan for increasing bandwidth needs, and how agencies and ISD should communicate with each other regarding problems and outages.

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full production yet, since support, standards, and guidelines need to be determined, and ISPG has not yet fully defined its role, but Internet usage within the enterprise is growing.

The next meeting will be January 24, 1:00–3:30 in the Montana State Library Conference Room. For more information, please contact Jim Senkler (444-0537) from the Montana State Library. ◼

MIS Provides Greater Access to Private Sector Services

Finally, it's here! Announcing the Management Information Systems (MIS) Services contract, a new service being provided by the Department of Administration as part of Governor Racicot's initiative to provide greater access to private sector services whenever it can be shown to be cost effective.

The Information Services Division (ISD) has entered into non-exclusive contracts with several companies to provide MIS Services to all State agencies. The contracts provide for a wide variety of technical services, such as Electronic Commerce, Office Information Systems, Network Services, and Strategic Data Management, as well as the traditional computer systems analysis and programming. In addition, it provides for technical consulting with the objective of providing agencies with maximum flexibility with respect to use of the contract. The contract is

written to address a large variation in the size of projects that would be allowed under terms of the contract.

Plans have been made to have all of the MIS vendors in Helena to hold a MIS information session. The date and time is Thursday, January 18, 1:30 to 4:00, Room 111 Metcalf Building.

Information regarding the use of this contract, including ordering procedure and company profiles, has been distributed to ITMG members. If further information or clarification is needed, please contact Brett Boutin (444-0515) of Computing Policy & Development. ∎

Announcing Color Printing Services

ISD Announces Another Value Added Service...

Color Printing Available Via the Backbone

Introducing Color Printing

ISD has made its HP Color LaserJet and HP Color Plotter available on the Capitol Complex fiber backbone. These color print capabilities are being provided as one of ISD's Value Added Services and are free to all state agencies. Any agency on the backbone can use these printers—all that is required is that you access

ISD's Value Added Server (VAS), set up the printers, and print!

The HP Color LaserJet prints up to two color pages per minute, prints on A size (8½" x 11") paper in color or black-and-white and on B size (11" x 17") paper in black-and-white only. Other paper sizes and duplexing are not supported. The HP Color Plotter is technically not a plotter; it is an HP DesignJet 650C (C2859A) ink jet printer and it can print up to E size (34" x 44") paper.

The HP Color LaserJet and HP Color Plotter are essentially Microsoft Windows-only printers. *As a general rule, printing to these two printers using a DOS application is not supported because most software and hardware vendors are not writing DOS printer drivers for these printers. If you wish to use a DOS application, please contact Denny Knapp (444-2072) or Brian Divine (444-2791) from End User Systems Support.*

Who to Call for Help

ISD will assist you in attaching to the Value Added Server, setting up the printer drivers, and in getting the output you desire. For help with any of the items in Figure 1, just call.

Where to Pick up Color Output

Printer output can be picked up at Computer Operations (basement of the Mitchell Building in the new wing) where mainframe output is picked up.

Tips on Using the HP Color Printers

Call First!

Call Sherry Leone (444-2597) or Sylvia Slocum (444-2558) first before you send your print job to ensure that the printer is on line, serviced, and that someone can keep an eye on your print job to make sure that it is printing correctly.

Banner Pages!

When using the HP Color LaserJet, please use a banner page so that we know who the output belongs to. Please do not use banner pages on the HP Color Plotter since it does not produce banner pages.

Be Careful!

Paper and ink are expensive for these color printers. For example, to print a complicated color picture on E-size (34" x 44") paper, about $5.00–$10.00 in resources per sheet are used. Please make sure you only print what is

For Help With:	Call:
Installation	Denny Knapp (444-2072) from End User Systems Support
Correct Output	Denny Knapp (444-2072) from End User Systems Support
Printer Output	Sherry Leone (444-2597) or Sylvia Slocum (444-2558) from Computer Operations Support
WordPerfect	Sue Skuletich (444-1392) or Candace Rutledge (2858) from End User Systems Support
Lotus 1-2-3	Brian Divine (444-2791) from End User Systems Support
Freelance	Brian Divine (444-2791) from End User Systems Support
CorelDRAW!	Jerry Kozak (444-2907) from End User Systems Support
Other	Denny Knapp (444-2072) from End User Systems Support

Figure 1: Who To Call For Help

Paper Size	Dimensions	HP Color LaserJet	HP Color Plotter
A size	8½" x 11"	✗	✗
B size	11" x 17"	✗*	✗
C size	17" x 22"		✗
D size	22" x 34"		✗
E size	34" x 44"		✗

The HP Color LaserJet only prints black-and-white on B size (11" x 17") paper.

Figure 2: Supported Paper Sizes

necessary. Be careful and make sure your print job is set up correctly before printing.

WYSINNWYG (What You See Is Not Necessarily What You Get)
The colors and appearance of what you see on your screen are not necessarily what you will get on your printed output. Screen colors and printed output colors do not always match.

Supported Paper Sizes
A table of supported papers sizes for the HP Color LaserJet and the HP Color Plotter are shown in Figure 2.

What Works and What Doesn't
HP Color LaserJet
- For use with most Windows applications (WordPerfect, 1-2-3, Freelance, Corel, and others).
- DOS Applications are not supported.
- Prints on A size (8½" x 11") paper in color or black-and-white.
- Prints on B size (11" x 17") paper in black-and-white only.

HP Color Plotter
- WordPerfect for Windows does not fully understand the plotter printer driver. It will only print A size (8½" x 11") on the plotter. Larger output sizes are not supported.
- Lotus 1-2-3 for Windows takes experimentation to get the desired

output. It will support up to D size (22" x 34") output, but will not print on E size (34" x 44") paper. Call Brian Divine (444-2791) first before you start printing.
- Freelance for Windows works well. Call Jerry Kozak (444-2907) if you have any questions.
- CorelDRAW! also works well. Call Jerry Kozak (444-2907) if you have any questions.
- DOS Applications are not supported. ∎

"ISD has made its HP Color LaserJet and HP Color Plotter available on the Capitol Complex fiber backbone. These color print capabilities are being provided as one of ISD's Value Added Services and are free to all state agencies. Any agency on the backbone can use these printers—all that is required is that you access ISD's Value Added Server (VAS), set up the printers, and print!

The HP Color LaserJet and HP Color Plotter are essentially Microsoft Windows-only printers. As a general rule, printing to these two printers using a DOS application is not supported because most software and hardware vendors are not writing DOS printer drivers for these printers. If you wish to use a DOS application, please contact Denny Knapp (444-2072) or Brian Divine (444-2791) from End User Systems Support."

MAINFRAME NEWS
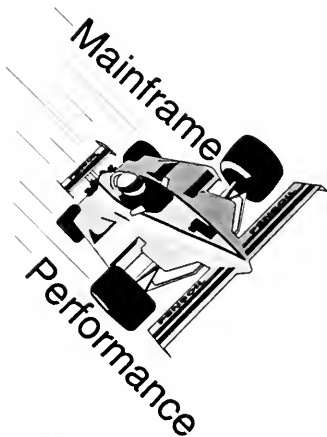
Be Aware of Old Date Conversion Subroutines

Many years ago, a number of Assembler Language date retrieval and conversion subroutines were made available for use by high level programs, such as COBOL. They are used to retrieve the current date in various formats, and to convert from one date format to another. A common conversion is from Julian to Gregorian (Calendar) and vice versa. **These routines may not operate correctly after the year 2000, and will not be modified to do so.** Any calls to them should be replaced with a call to a single date conversion subroutine named DATECVT. Changes to DATECVT that will correctly handle the year 2000 and beyond are currently being tested.

DATECVT is already widely used and has been for some time; it will perform any of the conversion functions done by the older subroutines, along with a very wide range of others. Converting to it will be a simple change of parmlist format in most cases.

The old subroutines that need to be replaced are:

    MA1756
    PA1038
    PA1039
    CALDATE
    JULIAN
    CALENDAR
    IPLDATE

If you need help in converting to DATECVT, contact Glen Stroop (444-2910) from Systems Development Support. ∎

ES/9021—821 Performance...

How is the New Mainframe Performing?

The IBM 821 mainframe had a CPU utilization of 73% for it's first month of operation. During the prime shift, the number of CICS and IDMS transactions remained fairly constant as did the number of TSO sessions. We did see a 17% increase in the number of batch jobs being processed. This CPU utilization is higher than what we originally predicted. One reason for this is that there was additional work available for the 3090-400J, but there were no CPU cycles to perform it during prime shift. With the new processor's increased capacity, this work could be done. We will keep you updated on the 821's performance as we go into the historically busiest time of the year. ∎

DISOSS/PSPC via CL/ Supersession Support Dropped

Access to DISOSS/PSPC from CL/Supersession will no longer be supported as of January 20, 1996.

According to statistics provided by the End User Systems Support section, the usage of DISOSS/PSPC is only with the End User Systems Support group.

ZIP!Office/ZIP!Mail is the software product that the past DISOSS/PSPC users have been migrated to. As of January 20, 1996, you will no longer be able to access DISOSS/PSPC via CL/Supersession.

If you are a current user of DISOSS/PSPC, please call Kyle Wynn (444-2859) of End User Systems Support for information on migrating to ZIP!Office/ZIP!Mail. ∎

Strategic Direction Implementation Discussed at ITMG

The monthly meeting of the statewide Information Technology Managers Group (ITMG) was held on December 6, 1995. A topic generating much discussion was "Implementing the Enterprise's Strategic Direction." While the state, under ITAC's leadership, has been successful in developing strategic directions in information technology, it was felt that implementation could often be more efficient. Discussion included:

- concern about lack of staff and other resources for implementation both at ISD and the agencies
- interest in hardware and database services provided by ISD to accommodate limited resources of smaller agencies
- a state "warehouse" for upgrading computer technology

> *"A topic that generated much discussion was 'Implementing the Enterprise's Strategic Direction.' While the state, under ITAC's leadership, has been successful in developing strategic directions in information technology, it was felt that implementation could often be more efficient. Discussion included:*
> - *concern about lack of staff and other resources for implementation both at ISD and the agencies*
> - *interest in hardware and database services provided by ISD to accommodate limited resources of smaller agencies*
> - *a state 'warehouse' for upgrading computer technology"*

It was decided that a small group would meet and identify specific implementation needs. If necessary, a plan may be taken to ITAC that can be wrapped into the next budget planning process.

In other business, the group was updated on:
- Central Stores selling of standard software
- Enterprise Software Subcommittee's continuing work on the database question

- Operating Systems Subcommittee's continuing work on e-mail directions

The last part of the meeting was an optional "Internet Introduction" presented by ISD staff.

Full minutes of the meeting may be found on the state BBS (Agency / Administration / Advisory Groups), on the Value Added Server (under GUEST\ITMGINFO), or by calling Amanda Christen (444-2700) from ISD. ▪

Looking Into
Lotus

New Utility Reconstructs Corrupt Lotus 1-2-3 Files

End User Systems Support has recently purchased a utility program which is used for recovering corrupted multi sheet and single sheet Lotus spreadsheets. Rescue Plus version 2.0 works on version 3.X and 4.X and 5.X Lotus for Windows files. We have tested this product on a variety of non-functioning spreadsheets and have had 100 percent success in recovering those spreadsheets. This product will also recover passwords on 3.X files. If you have any corrupted Lotus spreadsheets which are either 3.X or 4.X, 5.X for Windows, please contact Brian Divine (444-2791) from End User Systems Support. He would be glad to reconstruct them for you. ▪

It Works Like Magic!

Setting Up Triggers in CL/ Supersession

If you are a CL/Supersession user and use more than one session in which you are frequently jumping back and forth, then you might be a candidate for using "triggers" within CL/Supersession.

If you are currently signing on to an application under CL/Supersession such as TSO and then going back to your CL/Supersession Main Menu to select another session, there is a much easier way to jump among sessions. By setting up a trigger you don't have to go back to the CL/Supersession Main Menu to start another session.

A trigger is a set of predefined instructions that tells CL/Supersession what you want it to do. For example you can set up a trigger phrase such as =tsoa that will automatically log you on to TSO on SYSA. When you type this trigger phrase on any command input area on your 3270 screen, CL/Supersession will invoke a dialog to log you on to TSO on SYSA from your current session such as CICS, etc.

The following explains how to set up a trigger. Before we begin, let's pretend we want to set up a trigger for TSO on SYSA.
From your CL/Supersession Main Menu:
1. Move your cursor to the **Action Bar** by pressing **PF10** on your keyboard
2. Type in **OT** (**O** stands for

Options and T stands for **Trigger** keys)
3. Press **Enter**. The **Update Current Trigger Profile** pop-up window will appear. You are now ready to add a trigger to your profile.
4. Move your cursor next to the trigger that you want the new trigger to appear after.
5. Type **A** and press **Enter**. The **Add a Trigger** pop-up window will appear.
6. Type in a Phrase. ISD recommends you begin your phrases with an '=' sign. This way you can easily identify your personal defined triggers from the default group you are assigned. **Keep in mind that triggers are case sensitive**, so if you always type in lowercase, then define your phrase in lowercase; the same goes for uppercase. To follow our example as mentioned above we would type in a phrase of =tsoa for access to TSO on SYSA.
7. Type in a Key. This will be the key that will invoke the trigger. In setting up a trigger phrase, this should always be the **Enter** key.
8. Type in the Dialog name. **FOR A TRIGGER PHRASE THIS MUST BE "GOTOSESS"**. GOTOSESS is a CL/Supersession dialog name that must be specified for this to work. (These dialog names must be known to CL/Supersession, therefore you could not just make up a name.)
9. Type in Parameter. This is the Session ID of TSO on SYSA. You can get the Session ID name off of the CL/Supersession Main Menu under the column marked Session ID.
10. Press **Enter**. The **Update Current Trigger Profile** pop-up window reappears. The message **CS021 Trigger added** appears above the Command prompt in the lower left of the pop-up window.
11. To return to the CL/Supersession Main Menu, press **PF12**.

You are now ready to test your trigger

definition. Sign on to an application (other than the one you set your trigger up for). From a command input area, type in the trigger phrase =**tsoa** and press **Enter** (still following our example from above). CL/Supersession should take you into TSO on SYSA automatically.

CL/Supersession also defines default triggers for each user. These can be used if you so desire instead of defining your own triggers. They are listed below:

Phrase

\g   This default trigger can be used in place of defining your own trigger. The difference between the above defined trigger and this one is that you have to supply the Session ID with this trigger. For example: \g tso (This may be a few more keystrokes depending on the length of the Session ID.) This will do the exact same thing as the trigger defined above.

\n   This default trigger will jump you to your **next** active session. (Basically a round robin effect).

\p   This default trigger will jump you to your **previous** active session.

\l   This default trigger will bring up the CL/Supersession LOCK SCREEN prior to the 15 minute lock screen value. (i.e. the screen where you have to type in your password to get back to your session).

\m   This default trigger will bring you back to the CL/Supersession Main Menu screen. **This is the recommended way of returning to the CL/Supersession Main Menu.**

If you have any questions regarding this article call Glen Stroop (444-2910) or Tricia O'Connor (444-2906), both from ISD. ◼

Term Contract Vendors Announce New Products

ComputerLand of Helena

Please call Mike Price (443-3200) with any questions regarding the following products:

IBM ThinkPad 365C/CS/CD/CSD

IBM's new ThinkPad 365 notebook family with the fast DX4 75 MHz processor, choice of pre-installed operating system and application software, integrated infrared (IR) for wireless data/file transfer, and more. You can select from two display types and two hard disk drives (HDD) to tailor a "take with you" computer that is ideal for numeric-intensive applications, such as spreadsheets, engineering applications and graphics.

IBM PC 300 with Pentium Pro Processor (P6)

New PC 300 models of IBM's popular PC 300 product line feature the Intel Pentium Pro microprocessor. The Pentium Pro is an advanced generation processor that attains new levels of performance for 32-bit software environments.

Availability is very good on the ThinkPad 365, 701, 755 and PC 700 series.

Digital/MicroAge

Please call Steve Woolley (442-0050 or 800-290-4743) with any questions.

Digital Expands the Celebris GL Line

Digital has made some powerful additions to the Celebris GL line. The new Celebris GL is now available with a 1.6 GB hard drive to provide the added capacity you may need. The Celebris GL uses EDO memory, which is expandable to 128 MB. Choose between Slim Line or a Short Tower case.

The Digital Celebris GL is a high-performance affordable desktop PC for the user who needs high productivity within a network, and will also meet the demanding needs of business, scientific and engineering applications. The Celebris GL is packaged for performance and expandability, and includes a built in Quad Speed CD-ROM drive on most models, as well as an integrated 64-bit PCI graphics accelerator.

Digital Prioris LX 590

The Digital Prioris LX 590 has been selected as a finalist for the 1995 PC Computing MVP award. This distinction is one of the most highly regarded awards in the computer industry. PC Computing editors evaluate systems for performance, usability, innovation and design.

The Digital Prioris LX 590 gives you the power of a server at the price of a PC. This entry-level server is ideal for price-sensitive organizations and for remote sites within a larger organization. The Digital Prioris LX 590 is also a recent recipient of the AIM Technology Hot Iron Award for Price/Performance. ◼

Information Services Division

Training Calendar

This schedule has been assembled by the Helena College of Technology of The University of Montana. If you have any questions about enrollment, please call 444-6821.

All classes will be held at the Helena College of Technology, Room 211, at 1115 N. Roberts, unless another location is specified. Please note that these costs are subject to change

each July 1.

To enroll in a class, **you must send or deadhead an enrollment application** to the State Training Center, HCT, Helena, MT 59601. If you have questions about enrollment, please call 444-6821. *Once you enroll in a class, the full fee will be charged UNLESS you cancel at least three business days _before_ the first day of class.* HCT is also willing to schedule specific classes by request from state agencies.

	DATES	COST	LENGTH
Data Network/Mainframe Classes			
Oracle	January 24, 25, 26	255.00	3
Oracle Forms	February 5, 6, 7, 8, 9, 12, 13, 14	255.00	3
Prereq. Oracle	9:00 am–12:00 noon		
PowerBuilder	February 26, 27, 28	255.00	3
TSO/SPF	March 4, 5	85.00	1
	1:00 pm–4:30 pm, Room 210		
Microcomputer Classes			
Introduction to Windows	January 10	85.00	1
Intermediate Windows	January 11	85.00	1
Prereq. Intro to Windows			
CorelDRAW	January 22	85.00	1
Introduction to Windows	February 13	85.00	1
Introduction to Windows	February 14	85.00	1
Introduction to Windows	March 18	85.00	1
Fundamentals of DOS	March 28	85.00	1
PC Memory Management	March 29	85.00	1
Word Processing Classes			
WordPerfect 6.1 for Windows	January 16, 17	170.00	2
Prereq. Intro to Windows			
WordPerfect 6.1 Conv. Windows	February 5	85.00	1
Prereq. Intro to Windows, WordPerfect			
WordPerfect 6.1 Conv. Windows	February 6	85.00	1
Prereq. Intro to Windows, WordPerfect			
WordPerfect 6.1 Tables	February 7	42.50	½
Prereq. WordPerfect 6.1			
WordPerfect 6.1 Merge & Sort	February 8	42.50	½
Prereq. WordPerfect 6.1			
WordPerfect 6.1 Macros	February 12	42.50	½
Prereq. WordPerfect 6.1			
WordPerfect 6.1 for Windows	March 19, 20	170.00	2
Prereq. Intro to Windows			
Desktop Publishing With WordPerfect 6.1	March 25, 26	170.00	2
Spreadsheet Classes			
Lotus Macros for Windows	January 23	85.00	1
Lotus for Windows	February 20, 21	170.00	2
Lotus for Windows	March 21, 22	170.00	2

Prerequisites may be met with consent of Instructor.

The Helena College of Technology makes reasonable accommodations for any known disability that may interfere with a person's ability to participate in training. Persons needing an accommodation must notify the College no later than two weeks before the date of training to allow adequate time to make needed arrangements. To make your request known, call 444-6821.

ISD Class Enrollment Application

COMPLETE THIS APPLICATION **IN FULL** AND RETURN
IT **AT LEAST ONE WEEK PRIOR** TO THE FIRST DAY OF CLASS

COURSE DATA

Course Requested: _____

Date Offered: _____

STUDENT DATA

Name: _____

Soc. Sec. Number (for P/P/P): _____

Agency **& Division**: _____ / _____

Mailing Address: _____

_____

Phone: _____

How have you met the required prerequisites for this course? Explain, giving the class(es) taken, tutorial(s) completed, and/or experience.

_____

_____

_____

BILLING INFORMATION/AUTHORIZATION *MANDATORY*

User ID: _ _ _ _ _ _ _   Agency #: _ _ _ _ _

Authorized Signature: _____

*FULL CLASS FEE WILL BE BILLED TO THE REGISTRANT UNLESS
CANCELLATION IS MADE THREE BUSINESS DAYS BEFORE
THE START DATE OF THE CLASS.*

**DEADHEAD COMPLETED FORM TO:
COMPUTER TRAINING CENTER
HELENA COLLEGE OF TECHNOLOGY
OF THE UNIVERSITY OF MONTANA
PHONE 444-6800 FAX 444-6892**

Editor's Notes

Published By...

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This newsletter is dedicated to educating and informing the reader with pertinent ISD news. Materials may be reproduced without permission. Alternative accessible formats of this document will be provided upon request.

Editorial Submissions...

If you would like to submit an article to *ISD News & Views* for publication, please send it to Curt Secker or Irv Vavruska, preferably via ZIP!Mail. Please have your article in by the 15th of the month for inclusion in the following month's newsletter.

ISD Customer Support Center...

Got a problem (opportunity)? Do you need ISD assistance for any of your information processing requirements? Then contact the ISD Customer Support Center (444-2000), which is our central point of contact.

Subscription Services...

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